

(34.6 ± 0.2 $P < 0.05$), CD8 (22.6 ± 0.4 $P < 0.05$), CD4/CD8 (1.62 ± 0.03 $P < 0.05$). The total number of B-cells was normal: CD20 (13.7 ± 0.3 $P > 0.5$). The level of lymphocytes was slight increased: (34.4 ± 0.4 $P > 0.5$). Remission was characterized by normalization of cellular immunity: CD3 (61.4 ± 0.4 $P > 0.5$), CD4 (41.1 ± 0.3 $P < 0.05$), CD8 (29.9 ± 0.4 $P < 0.05$), CD4/CD8 (1.4 ± 0.02 $P < 0.05$). The B-lymphocyte and lymphocytes level were within normal limits:

CD20 (16.4 ± 0.7 $P > 0.5$ and 27.3 ± 1.1 $P > 0.05$).

Conclusion: The immune status in BO is characterized by a significant decrease of activity of helper

T-cells in the acute phase and their tendency to normalization in remission. Suppressor activity was characterized by a marked decrease in an acute phase of the disease and its gradual normalization in remission. B-cell link and the number of lymphocytes does not suffer.

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HLA associations with cytokine levels and disease course in patients with chronic kidney disease and glomerulonephritis

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Background: Studies on the role of human leukocyte antigens (HLA) in pathogenesis of a disease may determine the value of HLA as a prognostic marker in Chronic Kidney Disease/ glomerulonephritis (CKD: GN).

Methods: The distribution of HLA-A, B, DR antigens in 514 patients with CKD: GN (244 I-III st. + 270 IV-V st.) was analyzed. HLA antigens were defined using a standard microlymphocytotoxic test on Terasakirs planchette with special panels of anti-HLA serums (20 antigens of locus A, 31 – B and 9 – DR). The control group consisted of 350 healthy donors from Kiev. The etiologic fraction (attributive risk $\sigma > 0.1$) was counted using the formula: $\sigma = x - y / I - y$, where x is frequency of antigen in patients and y – frequency in healthy. The cytokine levels in serum were studied using ELISA.

Results: In patients the relative risk of a disease stipulated HLA-A23, A24, A28; B8, B38, B41, B44; DR1, DR4 and DRw52 (RR > 2.0); the etiologic fraction constituted A24, A28, B8, DR1, DR4,

DRw52 ($\sigma > 0.1$). In renal insufficiency the A19, A24 frequency lowered ($P < 0.05$); can not exclude that the antigen carriers did not survive to this stage of CKD, therefore will consider them as risk factors of negative prognosis. A19 + 31 + 32, B8, B44, DR4 are associated with hormone resistance (HR) in adults, A24 in children ($P < 0.05$). The levels of assessed cytokines in the CGN patients was high. HLA-24, 28 and B44 (RR > 2.0) were associated with the highest product of cytokines such as TNF-6, IL-4, -17, -18 and VEGF; DR1 ($\sigma > 0.1$) with the high level of IL-18, show the important role of these antigens and cytokines in immunogenesis of CKD: GN.

Conclusion: Presence in HLA-phenotype of antigens A24, A19 + 31 + 32, A28, B8 B44 DR1, is associated with HR and/or high production of cytokines, aggravating the prognosis for CKD: GN. Such patients comprise a group of high risk for the loss of renal function and CRI development.

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The effect of systemic corticosteroids on the innate and adaptive immune system

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Background: Corticosteroids (CS) are used in the treatment of a variety of diseases. It is known that the administration of prednisolone at a dose of 2 mg/kg/day or another CS at the equivalent dose causes immunosuppression, which disappears 1 month after discontinuing. Nevertheless, the severity and duration of immunosuppression caused by CSs have been not studied enough. We aimed to investigate the suppressive effect of CS on the immune system and to find out the timing and duration of immunosuppressive effect of CS on the different components of immune system.

Method: Pediatric patients diagnosed with nephrotic syndrome and treated with CS were involved. Blood samples were drawn for immunologic analysis (Complete blood count, lymphocyte subsets, dihydrorhodamine test, lymphocyte proliferation) before, during CS treatment at the 1st and 2nd weeks and 1st, 2nd and 3rd months and after discontinuation of CS at the 1st and 2nd weeks and 1st, 2nd and 3rd months.

Results: Thirteen patients (M/F: 7/6) between 1–15 years old were evaluated.

Nine patients complete the study protocol. Absolute leukocyte count increased significantly at the first week of CS treatment ($P = 0.008$), peaked at the second week ($P = 0.005$) and stayed high compared to the pre-treatment count during the 3 months of treatment. Both amount ($P = 0.025$) and function of neutrophils increased at the first week. The helper ($P = 0.036$) and cytotoxic T-cell ($P = 0.013$) counts decreased significantly at the first week, whereas, B-cell count increased at the first 2 week and decreased gradually during the treatment without statistical significance. However, after cessation of CS, B-cell count declined significantly compared to the baseline levels ($P = 0.007$).

Conclusion: Our data implies that T lymphocytes were suppressed just at the first week of treatment. On the other hand, humoral immunity found to be affected later and neutrophil amount as well as function increased during treatment. Due to the early decrease in T-cells, it may be useful to accept the patients treated with CS as immunosuppressed to prevent infections.

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Immunological impact of induced acute physical activity reduction

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Background: Evidence reports a potential immediate impact of acute physical inactivity on metabolic and endocrinological parameters but immune response changes have never been previously studied. We aimed to evaluate the impact of acute physical activity reduction in circulating blood and leukocyte counts and lymphocytes subpopulations.

Method: Adults with 18–35 years of age, no metabolic disease, no physical activity impairment or auto-immune disease were recruited through public advertising and from our allergy clinic. Two hundred and twenty-six healthy individuals were contacted, of those, 61 attended the recruitment visit, 46 accepted inclusion, 5 abandoned before intervention and 2 after the first trial week. Participants completed physical activity, respiratory health and demographics questionnaires; lung function was assessed by spirometry and bronchodilation; atopy by skin prick tests and